

REMARKS

Applicant respectfully requests further examination and reconsideration in view of the instant response. Claims 1-24 remain pending in the case. Claims 1-24 are rejected. Claims 1, 8, 12, 14, 17, 20 and 23 are amended herein. No new matter has been added.

35 U.S.C. §102(e)

Claims 1, 2, 7, 12, 14, 15, 20 and 21 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent 6,065,018 by Beier et al., hereinafter referred to as the "Beier" reference. Applicant has reviewed the cited reference and respectfully submits that the embodiments of the present invention as recited in Claims 1, 2, 7, 12, 14, 15, 20 and 21 are not anticipated by Beier in view of the following rationale.

Applicant respectfully directs the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

A method of archiving a database, comprising the steps of:  
storing a plurality of archive logs comprising a plurality of transactions on an operational database;  
transmitting a plurality of asynchronous streams to a backup database wherein a first asynchronous stream of said plurality of asynchronous streams is transmitted at a first transmission rate and a second asynchronous stream of said plurality of asynchronous streams is transmitted at a second transmission rate, and wherein the plurality of asynchronous streams correspond to a plurality of archive logs; and

updating the backup database with the plurality of transactions.

Independent Claims 12, 14 and 20 recite similar limitations. Claims 2 and 7 that depend from independent Claim 1, Claim 15 that depends from independent Claim 14, and Claim 21 that depends from independent Claim 20 provide further recitations of features of the present invention.

Applicant respectfully asserts that Beier and embodiments of the claimed invention are very different. Applicant understands Beier to teach a method an apparatus to synchronize recovery logs for recovering related databases having different logical structuring (Abstract). In particular, Beier teaches a method for coordinating disaster recovery of related hierarchical and relational databases (col. 2, line 67 through col.3, line 1).

Applicant understands that hierarchical log records transmitted from the primary database to the recovery database are processed only up to the point that data has been captured in the relational database log volumes at the remote site (col. 8, lines 51-54). Specifically, Beier teaches that "the record updates may be transmitted to the recovery database's management system including controller 202 in parallel in task 610" (col. 8, lines 61-64). In particular, Beier does not teach, describe or suggest how the record updates are transmitted to the recovery database.

In contrast, embodiments of the claimed invention are directed towards a method of archiving a database wherein a plurality of asynchronous streams are transmitted to a backup database, as claimed. In particular, a first asynchronous stream of the plurality of asynchronous streams is transmitted at a first transmission rate and a second asynchronous stream of the plurality of asynchronous streams is transmitted at a second transmission rate, wherein the plurality of asynchronous streams correspond to a plurality of archive logs.

As described in the present specification, “[t]he advantage of utilizing multiple asynchronous streams is that if the backup process falls behind, it can quickly and expeditiously catch back up. In other words, suppose that a router goes down and archive logs build up on the host database because they cannot be sent to the backup database due to the failed router. Once the network is fixed, the host database can send multiple streams of archive logs” (page 8, line 20 through page 9, line 1) Transmitting the multiple streams asynchronously (e.g., at different rates) facilitates the expeditious recovery of the backup process.

Applicant respectfully asserts that Beier in particular does not teach, disclose, or suggest transmitting a plurality of asynchronous streams to a backup database, as claimed. On the contrary, Beier makes no reference to such a configuration, as Beier does not teach, describe or suggest any

transmission rates associated with the transmission of hierarchical log records.

Applicant respectfully asserts that nowhere does Beier teach, disclose or suggest the present invention as recited in independent Claims 1, 12, 14 and 20, and that this claimed subject matter is thus in a condition for allowance. Therefore, Applicant respectfully submits that Beier also does not teach or suggest the additional claimed features of the present invention as recited in Claims 2 and 7 dependant on allowable base Claim 1, Claim 15 dependant on allowable base Claim 14, and Claim 21 dependant on allowable base Claim 20. Therefore, Applicant respectfully submits that Claims 2, 7, 15 and 21 overcome the rejection under 35 U.S.C. § 102(e), and are in a condition for allowance as being dependent on allowable base claims.

Claims 8, 9, 17, 18, 23 and 24 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent 6,085,298 by Ohran, hereinafter referred to as the "Ohran" reference. Applicant has reviewed the cited reference and respectfully submits that the embodiments of the present invention as recited in Claims 8, 9, 17, 18, 23 and 24 are not anticipated by Ohran in view of the following rationale.

Applicant respectfully directs the Examiner to independent Claim 8 that recites that an embodiment of the present invention is directed to (emphasis added):

A method of performing automatic recoveries on an archived database, comprising the steps of:  
comparing files residing on an operational database to files residing on a backup database;  
determining whether there are any missing files by checking for files which exist on the operational database and which do not exist on the backup database;  
recopying files from the operational database over to the backup database which are missing;  
determining whether there are any corrupted files by checking for files which have a different size on the operational database as compared to corresponding file residing on the backup database;  
recopying files from the operational database to the backup database which have become corrupted, wherein the automatic recovery process is run by a program automatically in the background without requiring initiation.

Independent Claims 17 and 23 recite similar limitations. Claim 9 that depends from independent Claim 8, Claim 18 that depends from independent Claim 17, and Claim 24 that depends from independent Claim 23 provide further recitations of features of the present invention.

Applicant respectfully asserts that Ohran and the embodiments of the claimed invention are very different. Applicant understands Ohran to teach a system and method for comparing mass storage devices (Abstract). Applicant understands Ohran to teach a backup system that is initiated to determine whether there are differences in a mass storage device and a backup storage

device, and to process data blocks accordingly (col. 29, lines 26-40). In particular, the backup system must be initiated to make a determination as to differences between the storage devices.

As described in steps 214 and 216 of FIG. 10 of Ohran, it is identified whether a backup is being initiated by either the backup system or by the primary system (col. 29, lines 41-43). Depending on whether the backup system or the primary system initiates the backup, different actions are taken (col. 29, lines 43-50). Ohran describes in detail various modes for initiating a backup (col. 20, lines 20-61). In particular, Applicant respectfully asserts that Ohran teaches that a backup must be initiated, as it is necessary to determine where the backup is initiated.

In contrast, embodiments of the claimed invention are directed towards a method of performing automatic recoveries on an archived database, wherein the automatic recovery process is run by a program automatically in the background without requiring initiation, as claimed. In particular, the automatic recovery process is constantly operating the background, and requires no intervention to initiate.

As described in the present specification, the automatic recovery process "is all done automatically in the background. The present invention regularly checks the archived logs stored in the backup database against the

archived logs maintained in the host database. If there is a discrepancy, the archive log at issue is recopied from the host database to the backup database. Thereby, this eliminates the need for any human intervention" (page 10, lines 15-20). By performing the automatic recovery process in the background, it is not necessary to initiate the process.

Applicant respectfully asserts that Ohran in particular does not teach, disclose, or suggest a method of performing automatic recoveries on an archived database, wherein the automatic recovery process is run by a program automatically in the background without requiring initiation, as claimed. On the contrary, as Ohran teaches a backup that must be initiated, Applicant respectfully asserts that Ohran teaches away from such a configuration.

Applicant respectfully asserts that nowhere does Ohran teach, disclose or suggest the present invention as recited in independent Claims 8, 17 and 23, and that this claimed subject matter is thus in a condition for allowance. Therefore, Applicant respectfully submits that Ohran also does not teach or suggest the additional claimed features of the present invention as recited in Claim 9 dependant on allowable base Claim 8, Claim 18 dependant on allowable base Claim 17, and Claim 24 dependant on allowable base Claim 23. Therefore, Applicant respectfully submits that Claims 9, 18 and 24

overcome the rejection under 35 U.S.C. § 102(e), and are in a condition for allowance as being dependent on allowable base claims.

5 U.S.C. §103(a)

Claims 3, 4, 6, 13, 16, 19 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Beier in view of Ohran. Claims 3, 4 and 6 are dependent on allowable base Claim 1, Claim 13 is dependent on allowable base Claim 12, Claim 16 is dependent on allowable base Claim 14, Claim 19 is dependent on allowable base Claim 17, and Claim 22 is dependent on allowable base Claim 20. Applicant respectfully submits that Claims 3, 4, 6, 13, 16, 19 and 22 overcome the cited art of record and is patentable in view of 35 U.S.C. § 103(a).

CONCLUSION

Based on the arguments presented above, Applicant respectfully asserts that Claims 1-24 overcome the rejections of record and, therefore, Applicant respectfully solicits allowance of these Claims.

The Examiner is invited to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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